

## CHAPTER 14

### CONTENTS OF AIR EMISSION TEST REPORTS

#### General

This chapter provides guidance for submitting air emission test reports. Special sampling situations may arise that do not fit these categories; however, this chapter has been broadly designed to serve as a guide to the standardization and quality assurance practices that are generally necessary for a report to be considered complete. The four most common deficiencies of test reports are: insufficient documentation of process conditions, insufficient documentation of test activities, inadequate calibration of test equipment, and the lack of approval for alternate methods or method deviations. All testing activities should incorporate good laboratory practices. The procedures used for testing and reporting of results should be those which are commonly accepted in the field of air pollution control per 30 Texas Administrative Code (TAC) Section (§) 101.14. Incomplete reports may be considered as noncompliance, and could result in enforcement action against the owner or operator of the facilities. Texas Water Code, § 7.179, addresses intentionally or knowingly omitting material information, making false statements, concealing, and or altering any notice, report or other document required by chapter, rule or permit.

Report reviews are conducted by the Texas Commission of Environmental Quality (TCEQ) to determine acceptability of the report based on the following general criteria:

- a. Is the air emissions test report in an acceptable and logical format?
- b. Is the air emissions test report complete?
- c. Have the Source's applicable test requirements been fulfilled?
- d. How valid is the testing event's raw test data?
- e. Were correct equations and terms used in the report's calculations?

A TCEQ conducted report review is the basis upon which an air emissions test Report is officially accepted or rejected by the Agency (TCEQ). The acceptability of a report is easier to determine if contents are complete and presented in a logical, organized manner, as illustrated in this chapter. Use of the TCEQ or Environmental Protection Agency (EPA) format for presentation of field data and calibration is encouraged to expedite report evaluation. Where possible, reports should conform to Texas Accessibility Standards. Guidance may be located at <http://governor.state.tx.us/disabilities/accessibledocs> or by contacting any TCEQ office for additional information.

The regulated entity should submit at least three copies of the report to the appropriate TCEQ regional office. Air permit Special Conditions may specify additional distribution of the report. One copy should be a bound hard copy. The other two may also be a bound hard copy, or contained in an electronic format. For electronic formats, the TCEQ can only accept a read-only compact disc (CD) and should be submitted in a slim jewel case. The currently acceptable file types for the CDs are:

- .pdf (document format/image - Adobe)
- .tiff (photographic/image)
- .xml (extensible markup language – can be used to describe documents)
- .doc (Microsoft Word)
- .xls (Microsoft Excel)
- .ppt (Microsoft PowerPoint)

The regional office will forward a bound hard copy or CD copy to Central Records in Austin. The copy being sent to the Central File Room will be considered the official agency record. It is recommended that the following list be used as a checklist for the report to insure it is complete.

## Stack Sampling

Organization and submission of stack test reports in the following manner will facilitate TCEQ review.

- 1) Table of Contents: Or an equivalent means of locating sections of the report, including additional volumes or appendices which may be required. Each page of the report should be numbered.
- 2) Introduction: Background information pertinent to the test and testing requirements (title page may be sufficient if it contains the information below).
  - a) Name and physical location of source sampled and date(s) of sampling.
  - b) Identification of the process and name and number of the unit sampled using TCEQ Regulated Entity Numbers (RN), TCEQ Account Numbers, TCEQ Permit Numbers, and Emission Point Numbers.
  - c) List of applicable testing requirements with brief explanation:
    - i) Specific citations of TCEQ Rule numbers; TCEQ Permit numbers or permit by rule requirements;
    - ii) The specific subparts and emission limit, testing, and reporting requirement rules of EPA New Source Performance Standards (NSPS), National Emissions Standards for

Hazardous Air Pollutants (NESHAP) National Emissions Standards for Hazardous Air Pollutants for Source Categories, commonly called Maximum Achievable Control Technology (MACT) Standards;

- iii) Other (e.g., Notice of Violation resolution, increased production rates, etc.).
  - d) List of pollutants sampled.
  - e) State whether this is the initial test, quarterly, or otherwise.
  - f) A detailed explanation of any tests which were not completed for any reason.
- 3) Summary: The portion of the air emissions test report that states the final results of the testing event and compares the results to the requirements, provisions and allowances of the applicable governing rules and standards.
- a) In the Test Report summary, include all pollutant mass emission rates, concentrations, removal or destruction efficiencies, emission to operation standard (e.g. lb./MMBTU, lbs./hp hr, lbs./MMgal loaded) or other applicable standard being determined during the air emissions testing event. Compare each result with the applicable standard(s), including: NSPS, NESHAP, MACT, TCEQ general and/or special provisions/conditions of the source's Permit, Permit Application Representations, Exemption Demonstration Requirements, et cetera (etc.). Submit the reading, sum or averages of pertinent support data measured during the testing event, in time units which are appropriate for use in the determination of the mass emission rate(s) of the air pollutants required to be tested for (by the source's operating permit or the applicable Federal Subpart).
- i) Particulate emission rates including and excluding the impinger catch portion of the sample. The impinger portion of the sample may be excluded only in certain cases.
  - ii) Percent isokinetic for each isokinetic sample.
  - iii) Schedule of intermittent periods during sampling and the normal schedule of such events (e.g., Soot blowing, CEMS blowback, process downtime, batch process, etc.).
  - iv) Operating level of the process during each sample or sample run, the normal operating level (usual), design maximum and maximum achievable operating levels.
  - v) Statement of operating condition of all abatement equipment during sampling including any cleaning cycles associated with the abatement equipment (e.g., absorber regeneration, baghouse bag cleaning cycles, ESP rapping, etc.).
- b) Where previous testing was conducted summarize differences in the results, testing and operating conditions.
- 4) Procedures: Description of equipment and procedures used during sampling and analysis
- a) If equipment, procedures, and analysis methods were exactly those described in the applicable sections of the TCEQ Sampling Procedures Manual, the Federal Register, and the Test Plan, include a statement to that effect along with a list of specific methods, procedures, and test equipment; schematic of instrumental analyzer sampling system, including all pumps, valves, mass flow controls, sample conditioning systems, heated lines, manifolds and atmospheric vents as configured during the test; any Reference

- Method deviation(s) approved by the TCEQ, including the date approved, and name & title of the TCEQ representative who approved the deviation(s).
- b) If any equipment, procedures, and analysis methods were consistent with, but not identical to TCEQ Sampling Procedures Manual, the Federal Register, and the Test Plan, provide **additional** information for those efforts including a detailed description of such methods, procedures, and equipment used; written approval for any deviations from standard procedures including: the name and description of all special apparatus and alternative testing methods used during test; copy of the method and publication references; written documentation of alternate test method approval.
  - c) Written approval for any major modification to a Reference Method. Written approval for any method(s) which was used that is not published in an EPA document, along with a copy of the method(s) detailing minimum and maximum detection limits, interferences, etc.
- 5) Process Data: The averages of all process or production parameters recorded, calculated or determined during the air emissions testing event, in time units which are appropriate for use in the determination of the mass emission rate(s) of the air pollutants required by the source's permit, state rule or the applicable Federal Subpart. Include the source of all parameter information.
- a) All other information necessary to calculate emissions or determine process activity to determine compliance with the standards or limitations being evaluated and show the proper operation of the facility for the tests being conducted, regardless of whether it is specifically or directly identified in the permit, state rule or the applicable Federal Subpart. Note: this information should generally be discussed and agreed on during a pretest meeting or other documented communication.
  - b) All measured pollutant emissions: both including and excluding the impinger catch portion of extracted samples.
  - c) Detail(s) of the following process or production rates for the facility, or the production or process unit in which the emission source is in service:
    - i) Logs of process parameters as may be necessary to document levels of operation. All printouts obtained from process, such as load etc., must be accompanied by a description which identifies the parameters and units used;
    - ii) Designed Rate;
    - iii) Permitted Rate (if applicable);
    - iv) Maximum Rate (if different from the designed rate);
    - v) Production Rate(s) Demonstrated during the testing event(s);
    - vi) Production Rates(s) Demonstrated during the Immediately Previous air emissions testing event, if applicable (recommended).
- 6) Calibrations: Dated calibration records with dates and worksheets for all equipment used during sampling. The name and description of all primary air emissions testing equipment used during the air emissions testing event, including manufacturer, model number and

serial numbers. If in question, the adequacy of the calibrations will be compared to the procedures in the current edition of the Quality Assurance Handbook for Air Pollution Measurement Systems.

- 7) Lab data: Include laboratory analysis worksheets and results including tare weights, blank results, spiked samples, audit samples and recovery studies required by the test method. Additional information sufficient for an independent evaluation of the procedure may be required for complex methods such as daily calibrations, date and time analysis were conducted, audit materials, and laboratory certifications and accreditations or exemption from accreditation. Note: all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a National Environmental Laboratory Accreditation Conference (NELAC) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC § 25.4 and § 25.6. For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:
- [www.tceq.texas.gov/compliance/compliance\\_support/ga/env\\_lab\\_accreditation.html](http://www.tceq.texas.gov/compliance/compliance_support/ga/env_lab_accreditation.html)

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at [labprgms@tceq.texas.gov](mailto:labprgms@tceq.texas.gov). Also include:

- a) A record of the chain of custody of the samples from sampling collecting through the final sample analysis.
  - b) Visible emission determination, opacity data sheets, observer certification, etc., if conducted.
- 8) Calculations: Example calculations of all applicable stack gas parameters, emission rates, and analytical results for the test which minimally include:
- a) Emission rates;
  - b) Allowable emission rates (TCEQ, EPA);
  - c) Excess air in stack;
  - d) Cyclonic flow;
  - e) Percent isokinetic;
  - f) F factor;
  - g) Soot blowing;
  - h) Stack gas parameters (velocity, moisture content, ACFM, SCFM);
  - i) Intermediate steps during analysis (titrations, aliquots, blanks);
  - j) Assumptions and constants used;
  - k) An example calculation using actual data from one of the valid test runs.

- 9) Testing Personnel information:

- a) Name and affiliations of all (including plant personnel) present during testing and their responsibilities during the test;
  - b) Name, address, and telephone number of testing organization, laboratories used and consultants overseeing or responsible for the testing report or results with an appropriate contact name for acquiring additional information.
- 10) Appendices: The portions of the air emissions test report that include various categories of supplementary and support information which is included to enhance the validity of the practices and procedures conducted prior, during and subsequent to the air emissions testing event.
- a) Schematic drawing of stack (elevation and plan views) showing all dimensions, sampling port locations, inlets, outlets, and nearest upstream and downstream flow disturbances with sampling point locations shown on plan view. Pictures of emission points may be substituted for drawings; however, measurements of the interior dimensions of the emission point are required.
  - b) Copies of all raw data taken during sampling. Record all handwritten data exclusively in indelible ink by all test and plant personnel, during the air emissions testing event. Include all data generated during the test by any instrumentation such as strip charts, integrator printouts, data acquisition system printouts; ensure that it is completely reproduced legibly. Clearly indicate the duration of all test runs, calibrations, and other significant events.
  - c) Also required as part of the report submittal is pretest meeting documentation, if a pretest meeting was held.
  - d) A copy of the TCEQ permit, if any, which applied to the unit(s) at the time of the testing to document the language and emission limits at the time of the testing. For testing required under the provisions of TCEQ flexible permits, include a calculation of emissions to compare to the cap on the day of testing for all emissions sources under the cap. Use the Hourly Cap Compliance Demonstration Summary Table (HCCDST) to report the data.